



Radium Methods Paper

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to:

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1 Attachment



radium_article.pdf

Ramona –

I enjoyed meeting you at the wastewater treatment and disposal roundtable. To follow up on our discussion, I have attached a paper that resulted from the study I mentioned of radium methods for environmental samples. The study was conducted by Lawrence Livermore National Laboratory with funding from the American Petroleum Institute, The Gas Research Institute, and the U.S. Department of Energy.

The citation for the paper is

B. B. Bandong, S. A. Kreek, J. M. Bazan, P. C. Torretto, J. A. Dixon, W. L. Edwards, E. B. Guthrie, M. A. Ruth, F. A. Zaka, H. L. Hall (2005) ; "Validation of a gamma-spectrometric method for the measurement of 226,228Ra in environmental media relevant to the offshore oil and gas industry" Journal of Radioanalytical and Nuclear Chemistry, Vol. 264, No. 2 (2005) 429-435

Although this study does not specifically address samples related to hydraulic fracturing wastewater, the information in it may be helpful to those involved in studies of radium in samples collected in EPA's research program.

Thanks again for inviting me to participate in the roundtable.

Best regards,

Joe Smith

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